REMARKS/ARGUMENTS

Responsive to the Official Action mailed May 15, 2008, applicants have further revised the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, claims 3. 4. 10, 18, 20, and 24-26 have been amended. Reconsideration is respectfully requested.

In the Action, the Examiner has rejected the pending claims under 35 U.S.C. §112. These rejections are respectfully traversed.

With reference to claims 1, 18, and 20, each of these claims recites a "glass spacer substrate". It is respectfully noted that at paragraph [0055], the Specification states:

> The base substrate 134 is manufactured in the following process steps. In a process step P10, a micro-spacer wafer 137 is manufactured by etching holes in a glass substrate of a wafer sized dimensions, for example, 20.32 cm.

In accordance with the Specification, the spacer wafer 137 corresponds to the micro-spacer plate 105, as shown in Figure 1.

Second spacer wafer 143 is also made of glass, which second spacer wafer 143 corresponds to second spacer plate 123, as shown in Figure 2.

Therefore, it is respectfully submitted that the Specification explicitly discloses that the spacer substrates are made of glass.

Claim 10 has been amended to clarify that the "adhesive layer" recited therein is a *third adhesive layer*, and comprises an ultra-violet curing resin.

In connection with claims 24-26, claim 20 has been revised to specify that *the first adhesive layer* adheres the spacer substrate to the image capturing element, with claims 24, 25, and 26 revised to further specify features of the various adhesive layers.

In rejecting the pending claims under 35 U.S.C. §103, the Examiner has relied upon U.S. Patent Application No.2004/0012698, to Suda et al., with further reliance upon U.S. Patent No. 6,072,634, to Broome et al., and U.S. Patent No. 5,617,131, to Murano et al. However, as set forth in the pending claims, it is respectfully submitted that the present invention is neither taught nor suggested by these references, even when combined, and accordingly, the Examiner's rejections are respectfully traversed.

In the Action, the Examiner has referred to Figure 26B, and further refers to the first embodiment of this reference disclosed in Figures 1A and 1B. However, applicants must respectfully maintain that this rejection is based upon different embodiments of the Suda et al. reference, and cannot provide a proper basis for rejection of the pending claims.

It is respectfully noted that the image pick-up module according to Figures 1A/1B of Suda et al. is *fundamentally different* from the present camera device, as shown in Figure 1 of the present application. With reference to Figure 1A of Suda, there is shown an upper substrate 101 having a convex lens 100, a lower substrate 102, a light shielding diaphragm layer 103 composed of a light shielding member formed on the upper surface of the lower substrate 102, a semi-conductor chip 104, and adhesive 105 for adhering the lower substrate 102 and the semi-conductor chip 104.

As disclosed in paragraph [0122] in Suda et al.:

> In the optical element 107, in adhering the upper substrate 101 and the lower substrate 102 with transparent adhesive, **the adhesive is so executed as to not form a gap,** thus avoiding formation of an interface between the air and the upper substrate 101 or the lower substrate 102, thereby advantageously preventing ghost image formation.

In contrast with the present invention, the presence of an air gap between the image capturing element 103 and the lens substrate 109 is essential. In order to create such an air

gap, the spacer substrate 105 comprises a hole coaxially positioned relative to a main optical axis of the lens element, as explicitly recited in claim 1 as presently pending.

Figure 1 of the Specification clearly shows that there is an air gap present between the image capture element 103 and the lens substrate 109. Such an air gap is obtained by using a spacer substrate 105 comprising a hole coaxially positioned relative to a main optical axis of lens 111. The "gap" thus obtained has different optical properties, e.g., refractive index, compared to the lens substrate 109 and/or the image capturing element 103.

The difference of the optical properties between these two media are required for the lens function in order to deflect light.

The present inventors have found that the larger the difference in optical properties, the better the optical specifications (e.g., modular transfer function, back focal length, chief ray angle, image circle, etc.) can be met at small form factors with low height (i.e., short total track lengths).

In this context, applicants respectfully refer to their Specification, at paragraph [0061], where it is specifically disclosed that there is an air gap between the two lenses 250, 252 of the wafer scale package, as illustrated in Figure 6B. In Figure 6B, a spacer layer 222 has been inserted between a first transparent layer 231 and a second transparent layer 240, containing lenses 250.

In addition, disclosed at paragraph [0062], the arrangement of Figure 7B has an advantage that is *very low in height*. This is because of the fact that a large angle with a traveling light can be used in the air cavity between the two lenses, wherein the air cavity has been obtained by using a spacer substrate comprising a hole coaxially positioned relative to a main optical axis of the lens, as specifically recited in present claim 1.

In contrast, the Suda et al. reference clearly teaches to *avoid an air gap*. Suda et al. also teaches that the space between the semi-conductor wafer and the optical element assembly is to be filled by an adhesive layer in such a way that the formation of an air layer therein is to be prevented. This means that Suda et al. *clearly teaches away* from the combination of technical parameters as set forth in present claim 1.

It is respectfully maintained that Suda et al. does not provide the person of ordinary skill in the art with any incentive to combine the teachings of Figures 1A/1B with the teachings of Figure 26B. The construction of the image pick-up modules are fundamentally different, especially regarding the configuration of the "spacer 102" of Figures 1A/1B. The spacer 102 is a glass plate extending over the whole structure of the image pick-up module. *There is no "hole" in spacer 102, nor is there any air gap.*

Furthermore, Suda et al. clearly teaches that the presence of an air gap should be prevented in the construction according to Figures 1A/1B, whereas the present invention requires such an air gap for obtaining the desired optical properties. In addition, the Suda et al. reference clearly teaches that the method for fixing the spacer 502 to the semi-conductor chip 503 is a SOI method (and not using an adhesive). Therefore, it is respectfully maintained that a person skilled in the art would never introduce adhesive 105 into the construction as shown in Figure 26B.

Applicants respectfully refer to M.P.E.P. Section 2143, which specifically admonishes that "the proposed modification cannot change the principle of operation of a reference". Applicants must respectfully maintain that that is exactly what the Examiner is doing by combining the conflicting teachings of the differing embodiments of the Suda et al. reference. It is respectfully maintained that when taken as a whole, this reference does not teach or suggest applicants' camera device structure as set forth in the presently pending claims. Those skilled

in the art would not be motivated or taught to pick and choose among the conflicting teachings of the various embodiments of the Suda et al. reference. Moreover, it is respectfully submitted that it is improper to rely upon applicants' disclosure to create a "mosaic" by choosing and combining the diverse teachings of Suda et al.

It is respectfully maintained that the secondary Broome et al. and Murano et al. references do not overcome the clear deficiencies in the teachings of the principal Suda et al. reference in teaching or suggesting the present invention.

In view of the foregoing, formal allowance of claims 1-4, 6-8, 10-16, and 18-33 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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